

CLAIMS

1. A mounting apparatus comprising:
 - a mounting part holding means for holding a
5 mounting part;
 - a mounting target part holding means for
holding a mounting target part;
 - a control means for moving one of the mounting
part holding means and the mounting target part
10 holding means to bring the mounting part held by the
mounting part holding means and the mounting target
part held by the mounting target holding means into
contact with each other in a predetermined fashion
for a predetermined processing;
 - 15 a contact start detecting means for detecting
start of contact between the mounting part and the
mounting target part; and
 - a contact start position detecting means for
detecting a contact start position where the start of
20 contact between the mounting part and the mounting
target part is detected by the contact start
detecting means,
 - wherein the control means comprises:
 - an initial movement control means for
25 moving the one of the means to be moved from a
predetermined initial position toward the other means
by a predetermined initial moving amount;

a contact movement control means for moving, after movement by the initial movement means by the predetermined initial moving amount, the one of the means to be moved toward the other means in a manner different from the movement by the initial movement means, bringing the mounting part into contact with the mounting target part; and

a correction means for correcting, each time the contact start position is detected by the contact start position detecting means, one of the predetermined initial moving amount and a predetermined initial moving amount that is obtained after correction by the correction means based on the contact start position detected.

2. A mounting apparatus according to Claim 1, wherein the contact start detecting means comprises a means for detecting contact start based on a contact pressure generated between the mounting part and the mounting target part.

3. A mounting apparatus according to Claim 1 or 2, wherein the contact start position detecting means comprises a means for detecting the contact start position based on a moving amount by which the one of the means to be moved moves from a predetermined reference position until the detecting of the start of contact between the mounting part and the mounting target part.

4. A mounting apparatus according to any one of Claims 1 through 3, further comprising:

a pressurizing means for causing an output member to act on one of the mounting part and the mounting target part to impart a predetermined pressurizing force between the mounting part and the mounting target part in contact with each other;

a lock means for supporting as a support portion a halfway portion of the output member from a direction opposite to a pressurizing direction to regulate relative movement of the output member in the pressurizing direction with respect to the support portion; and

a pressurizing force detecting means for detecting a pressurizing force actually acting on the output member between an end portion of the output member acting on the one of the mounting part and the mounting target part and a position of a cross section substantially perpendicular to the pressurizing direction of the output member including a support position of the lock means,

wherein, with the lock means imparting a predetermined pressurizing force to the output member of the pressurizing means while supporting the output member, the control means causes the initial movement control means and the contact movement control means to move one of the mounting part holding means and

the mounting target part holding means, and

wherein the pressurizing force detecting means is caused to function as the contact start detecting means.

5 5. A mounting apparatus according to Claim 4, further comprising:

 a raising amount detecting means for detecting, as a raising amount, an amount by which the output member is deformed between a contact side end portion
10 of the output member and the support portion due to a contact pressure generated when the mounting part comes into contact with the mounting target part; and

 a contact start position correcting means for correcting a contact start position detected by the
15 contact start position detecting means based on the raising amount,

 wherein, each time the contact start position is detected by the contact start position detecting means, the correction means corrects one of the
20 predetermined initial moving amount and a predetermined initial moving amount that is obtained after correction by the correction means based on the contact start position corrected by the contact start position correcting means.

25 6. A mounting apparatus according to Claim 5, wherein the raising amount detecting means detects the raising amount by a linear gauge.

7. A control apparatus for a mounting apparatus,
comprising a control means for moving one of a
mounting part holding means and a mounting target
part holding means to bring a mounting part held by
5 the mounting part holding means and a mounting target
part held by the mounting target part holding means
into contact with each other in a predetermined
manner for a predetermined processing,

wherein information from a contact start
10 detecting means for detecting start of contact
between the mounting part and the mounting target
part, and information from a contact start position
detecting means for detecting a contact start
position where the start of contact between the
15 mounting part and the mounting target part is
detected by the contact start detecting means, are
input to the control means, and

wherein the control means comprises:

an initial movement control means for
20 moving the one of the means to be moved from a
predetermined initial position toward the other means
by a predetermined initial moving amount;

a contact movement control means for
moving, after movement by the predetermined initial
25 moving amount by the initial moving means, the one of
the means to be moved toward the other means in a
manner different from that of the movement by the

initial moving means, bringing the mounting part into contact with the mounting target part; and

a correction means for correcting, each time the contact start position is detected by the contact start position detecting means, one of the predetermined initial moving amount and a predetermined initial moving amount that is obtained after correction by the correction means based on the contact start position detected.

10 8. A control apparatus for a mounting apparatus according to Claim 7, wherein the mounting apparatus comprises:

a pressurizing means for causing an output member to act on one of the mounting part and the mounting target part to impart a predetermined pressurizing force between the mounting part and the mounting target part in contact with each other;

a lock means for supporting as a support portion a halfway portion of the output member from a direction opposite to a pressurizing direction to regulate relative movement of the output member in the pressurizing direction with respect to the support portion; and

a pressurizing force detecting means for detecting a pressurizing force actually acting on the output member between an end portion of the output member acting on the one of the mounting part and the

mounting target part and a position of a cross section substantially perpendicular to the pressurizing direction of the output member including a support position of the lock means,

5 wherein information from a raising amount detecting means is input to the control apparatus, the raising amount detecting means being for detecting as a raising amount an amount by which the output member is deformed between a contact side end
10 portion of the output member and the support portion due to a contact pressure generated when the mounting part and the mounting target part are brought into contact with each other,

 wherein the control means is equipped with a
15 contact start position correcting means for correcting the contact start position detected by the contact start position detecting means based on the raising amount, and

 wherein, each time a contact start position is
20 detected by the contact start position detecting means, the correction means corrects one of the predetermined initial moving amount and a predetermined initial moving amount that is obtained after correction by the correction based on the
25 contact start position corrected by the contact start position correcting means.